RioScan™ ScanSeek™

V2.0
User's Manual

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How to Contact Us:

RioScan, Inc.
2220 Boston Street
Suite 200
Baltimore, MD 21231

Voice: 1-866-474-6722
Toll Free: 1-866-4RIOSCAN
Fax: 410-385-8559
Email: support@rioscan.com

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RioScan ScanSeek

Thank you for purchasing ***RioScan ScanSeek***! ***ScanSeek*** is a breakthrough application that will allow you to download any ODBC (Open Database Connectivity) data source to a Palm OS® handheld device. Through the handheld, data can be added, deleted, and edited, and then uploaded back into the original database on your PC.

ScanSeek is optimized for use in barcode enabled data collection applications. You can easily create portable data collection systems by linking ***ScanSeek*** to a Microsoft Excel spreadsheet, a Microsoft Access database, or a variety of other data sources. You can even build a PDA front-end to your existing legacy system or server database in minutes. ***ScanSeek*** has a considerable advantage over traditional data collection packages because it is Palm® OS based and ODBC compliant.

What is RioScan ScanSeek?

ScanSeek is an easy to use tool that allows you to rapidly build portable data collection applications based on nearly any data in your enterprise. If you have data in any ODBC data source such as Microsoft® Excel, Microsoft® Access, ASCII text, Oracle®, Microsoft® SQL Server, or most other common formats, ***ScanSeek*** can assist you to build a data collection application based on that data. Product features include:

- One touch data synchronization
- Support for a wide variety of databases through ODBC
- Relational support, even between different databases
- Record timestamps
- Default field values
- Read-only and required fields
- Indexed searching on the handheld
- Support for common data types
- “Wizard” based application generation
- No programming necessary

System Requirements

- **Handheld Requirements**
  ScanSeek requires a Palm OS® handheld running Palm OS® version 3.0 or later.

- **Personal Computer Requirements**
  ScanSeek requires a personal computer running the Microsoft® Windows® operating system (including Windows® 95, 98, ME, NT, 2000).

- **Other Requirements**
  As with any application for the Palm OS®, ***ScanSeek*** requires that the HotSync® Manager application be installed and operating prior to installing ***ScanSeek***.

Before Installation

Before installing ***ScanSeek***, you must have successfully finished installing the Palm™ Desktop software included with your handheld. Follow the directions included with that software to install it onto your personal computer (PC).

After you have installed the desktop software, synchronize the handheld to your PC using the HotSync® Manager application (installed as part of the Palm™ Desktop installation procedure). The first time the HotSync function is performed, you will be asked to assign a username to your handheld.

> *Note:* You must perform the HotSync function at least once prior to the installation of ***ScanSeek****,* otherwise the installation procedure may fail.

Verify that HotSync® Manager 3.0 or later is currently running on your PC. When HotSync is running, you will see a circular icon with red and blue arrows pointing in opposite directions on your taskbar located in the lower right hand corner of the screen. To determine which version of HotSync Manager is running, right-click on the icon and choose *About…* from the menu that appears.

Installation

1. Start Windows®. If you are using a networked computer, log in to an account with Administrator privileges.

2. Close all open applications

3. Insert the ***ScanSeek*** CD into the PC's CD-ROM drive.

4. If the installation program does not launch automatically, select **Start>Run** from the Windows® taskbar; otherwise, proceed to *Step 6*.

5. When the "Run" dialog box appears, type: **x:\setup**, and then click **OK**.

   <<x represents the CD-ROM drive letter>>

6. The InstallShield wizard appears.

7. Click on the *Next*> button to continue

8. Read the license agreement and, if you agree to the terms, click on the *Yes* button.

9. The setup program will guide you through the ***ScanSeek*** installation procedure.

10. During installation, you will be prompted to select the username corresponding to the handheld device on which you will want to install the handheld software. You will choose from a list of all user names that have previously synchronized to your PC.

After Installation

Verify that the software has been installed correctly. To do this, click your Windows Start Menu, select Programs and then look for the ***ScanSeek*** program group. Up to date Troubleshooting information is available from the RioScan web site at http://www.rioscan.com.

Installing the Handheld Software

To install the software on your handheld, simply HotSync your handheld to your PC. Place the handheld into its serial cradle and push the HotSync button on the cradle. This will automatically load the software onto the handheld. Once installed, the ***ScanSeek*** application will be located under the category of "**Unfiled"** in the main application screen.

Registration

When you first use ***ScanSeek*** on the handheld you will be required to enter a license code in order to register the product (a separate license is required for each handheld).

The license code for each handheld will be generated using the serial number displayed by ***ScanSeek*** the first time the application is run.

> ***NOTE:*** *The serial number displayed by* ***ScanSeek*** *is read from internal memory of the unit and is different from the serial number that appears on the back of the handheld.*
>
> ***NOTE:*** *If you are using a Handspring™ Visor with a barcode scanner Springboard module, you must have the scan module inserted into the unit at the time you retrieve a serial number for licensing. In some cases,* ***ScanSeek*** *will retrieve a serial number from the scan module rather than from the Visor itself.*

To register your software, you will need both the *Product Code* and the *serial number* displayed on the handheld by ***ScanSeek***. The *Product Code*, which identifies the product you have purchased, is found in the software box that the product shipped in. Once you have both your handheld serial number and Product Code available visit http://www.rioscan.com/register.html to register your software.

After completing the software registration process, you will be issued a *license code*. To enter the license code in the ScanSeek application, tap the line labeled "*License Code*" and enter the code using your stylus. If you have been issued a license barcode, you may scan the license barcode instead of entering the license code by hand. Tap "*OK*" when you are done.

RioScan Contact Information:

Email: support@rioscan.com
Web: http://www.rioscan.com

Getting Started

Following successful installation of ***ScanSeek*** (see the *Installation* section of this manual), the installation program will return you to the Windows® desktop.

This section will guide you through the steps involved to configure and register an *ODBC data source* for use with ***ScanSeek***. ODBC (Open Database Connectivity) is an open standard designed to support generic access to a wide variety of databases and database-like files. *Data Sources* are system resources, designated by a *Data Source Name*, that applications (such as ***ScanSeek***) can utilize to send and receive data. To support access to your database or spreadsheet through ***ScanSeek***, you must first set up an ODBC data source that identifies the filename and type of database you are using.

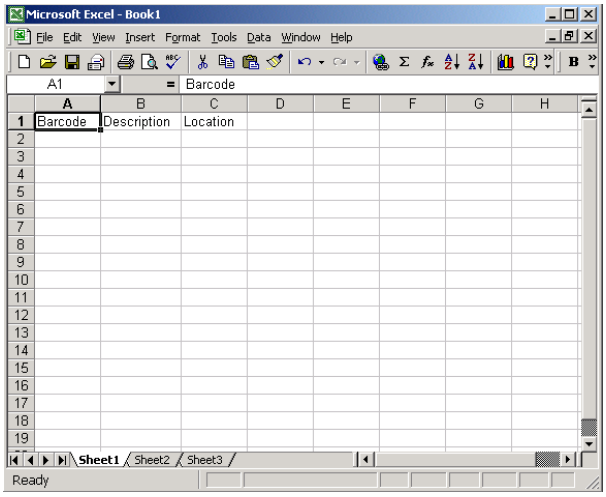
To get you started, this manual will step through the creation of a sample data source, using Microsoft® Excel. The use of Microsoft® Excel is intended for example purposes. The concepts presented should work equally well for any ODBC compliant data source. In a few places, we have added information related to Microsoft® Access for illustrative purposes.

Creating an Excel Spreadsheet as a Data Source

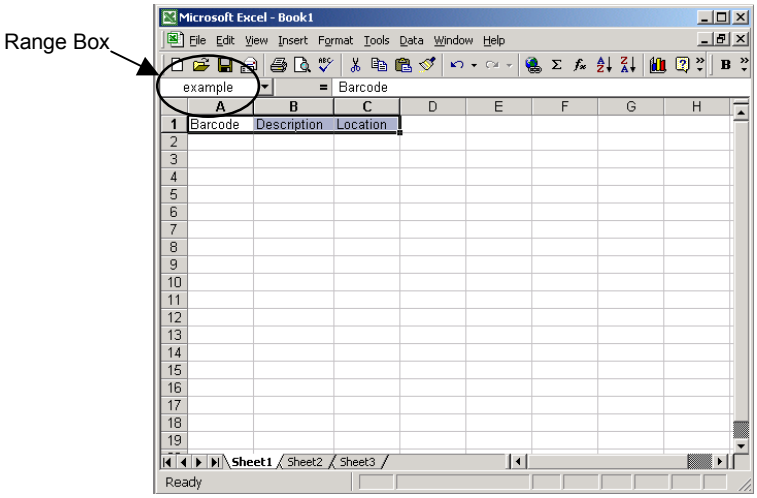
An Excel spreadsheet can be used as a *data source* by creating a *named range* within the target spreadsheet. The *named range* can be used much like a database table through ODBC. The following steps outline the creation of a simple spreadsheet with a *named range*.

1. Launch Microsoft® Excel. Begin with a new, empty worksheet.

2. In cell A1, enter "Barcode." In cell A2, enter "Description." In cell A3 enter "Location."



3. To create the *named range,* use the mouse to select cells A1 through A3. In the range box, type "example" followed by the *Enter* key.



4. Select **File>Save As**. Name the file and exit the application.

Installing ScanSeek Analyzer for Microsoft® Excel

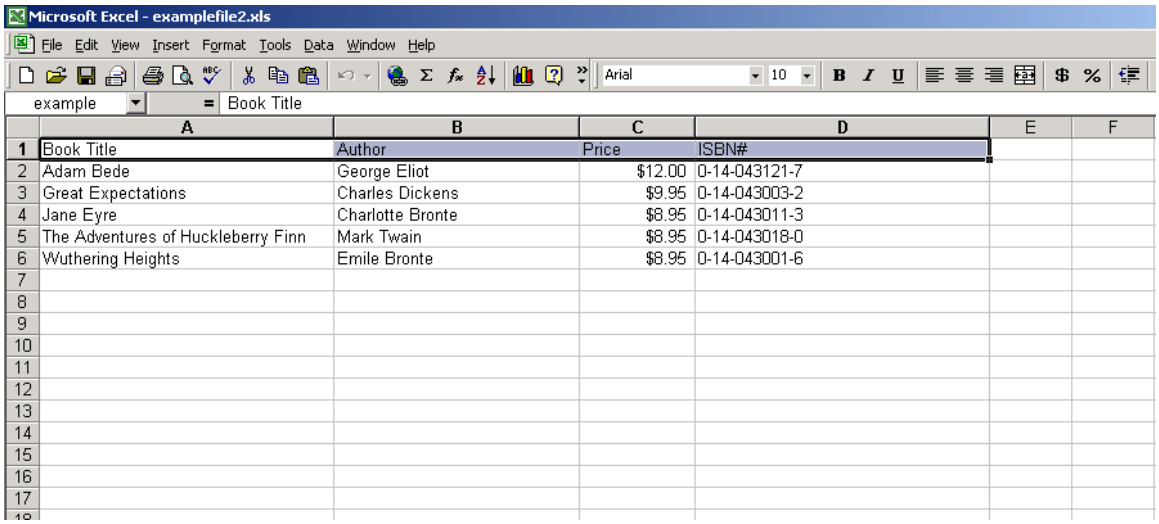
Included with ***ScanSeek*** is an *Add-In* for Microsoft® Excel named "ScanSeek Analyzer." This tool verifies the contents of a *named range* within an Excel data file by searching for common errors. When configuring a *Data Exchange* to access a *named range* within an Excel spreadsheet, it is important that the spreadsheet is set up in a way that allows ***ScanSeek*** to treat it as a database table. The analyzer *Add-In* should always be used to verify spreadsheet data prior to configuration as a ***ScanSeek*** *Data Exchange*.

To install the *Add-In*, follow these steps:

1. Launch Microsoft® Excel.
2. Select **Tools>Add-Ins…** from the menu bar.
3. Select the *Browse…* button.
4. Navigate to the ***ScanSeek*** program directory (e.g. C:\Program Files\ScanSeek)
5. Select the ***ScanSeek*** file ScanSeekAnalyzer.xla and click on the *OK* button.

Using ScanSeek Analyzer

1. Create a *named range* in an Excel spreadsheet.



	A	B	C	D	E	F
1	Book Title	Author	Price	ISBN#		
2	Adam Bede	George Eliot	$12.00	0-14-043121-7		
3	Great Expectations	Charles Dickens	$9.95	0-14-043003-2		
4	Jane Eyre	Charlotte Bronte	$8.95	0-14-043011-3		
5	The Adventures of Huckleberry Finn	Mark Twain	$8.95	0-14-043018-0		
6	Wuthering Heights	Emile Bronte	$8.95	0-14-043001-6		
7						
8						
9						
10						
11						
12						
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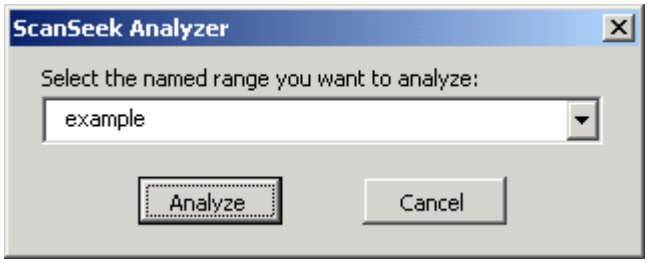
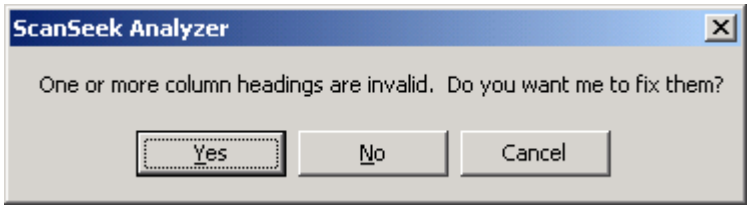
17						

2. Select **Tools->ScanSeek Analyzer…** from the menu bar.

3. In the “ScanSeek Analyzer” dialog box, select the *named range* to validate from the drop down menu. Click on the *Analyze* button to continue.

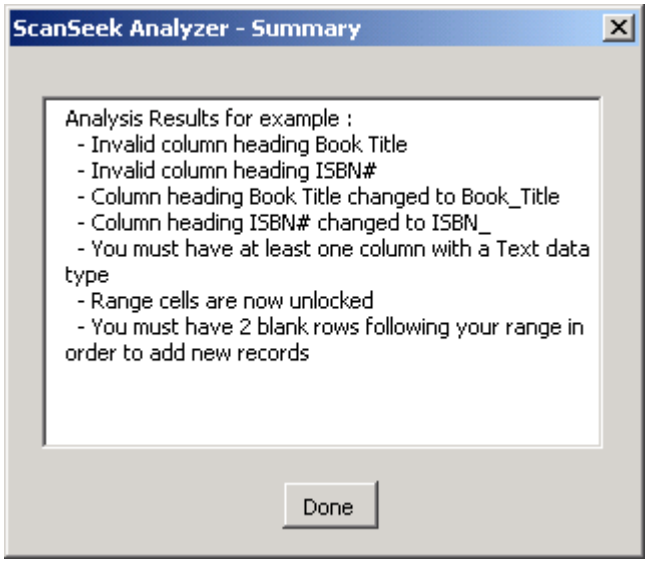


4. If problems are discovered concerning elements in the *named range*, the *ScanSeek Analyzer* will display one or more confirmation dialog boxes. Click on the *Yes* buttons for each of the dialog boxes if you would like the analyzer to fix the problems encountered.



Example confirmation dialog boxes.

5. When the *ScanSeek Analyzer* has corrected all of the problems it encountered, a dialog box will be displayed summarizing the analyzer’s work.


ScanSeek Analyzer - Summary
Analysis Results for example :
- Invalid column heading Book Title
- Invalid column heading ISBN#
- Column heading Book Title changed to Book_Title
- Column heading ISBN# changed to ISBN_
- You must have at least one column with a Text data type
- Range cells are now unlocked
- You must have 2 blank rows following your range in order to add new records
Done

Click on the *Done* button when finished. Then select **File>Save As**. Name the file and exit the application.

Microsoft Excel - examplefile2.xls

File Edit View Insert Format Tools Data Window Help

example = Book_Title

Sort Ascending

	A	B	C	D	E	F
1	Book_Title	Author	Price	ISBN		
2	Adam Bede	George Eliot	$12.00	0-14-043121-7		
3	Great Expectations	Charles Dickens	$9.95	0-14-043003-2		
4	Jane Eyre	Charlotte Bronte	$8.95	0-14-043011-3		
5	The Adventures of Huckleberry Finn	Mark Twain	$8.95	0-14-043018-0		
6	Wuthering Heights	Emile Bronte	$8.95	0-14-043001-6		
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Spreadsheet following modification by ScanSeek Analyzer.

Setting up Open Database Connectivity (ODBC)

ScanSeek connects to a data source (Microsoft® Excel spreadsheet, Microsoft® Access database, etc.) through *Open Database Connectivity* (ODBC). Setting up an ODBC connection to a *data source* in the Windows® operating system is performed through the *ODBC Data Source Administrator*.

> ***Note:*** The procedure for configuring an ODBC data source varies between different versions of the Windows® operating system. Please follow the instructions applicable to the version of the operating system installed on your PC.

The location of the ODBC Data Source Administrator varies between versions of the Windows® operating system. Follow the instructions, below, as applicable to the operating system installed on your computer system.

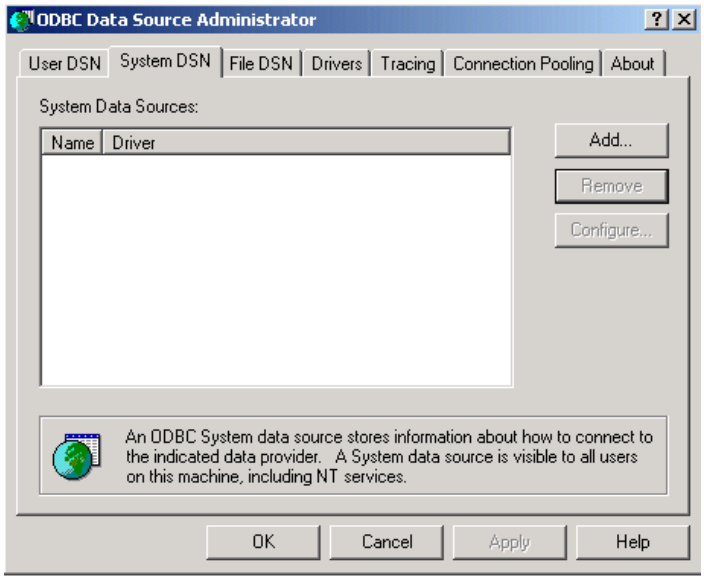
For Windows® 95/98/NT the ODBC icon is located in:
Start>Control Panel>Settings.

For Windows 2000 the ODBC icon is located in:
Start>Control Panel>Settings>Administrative Tools.

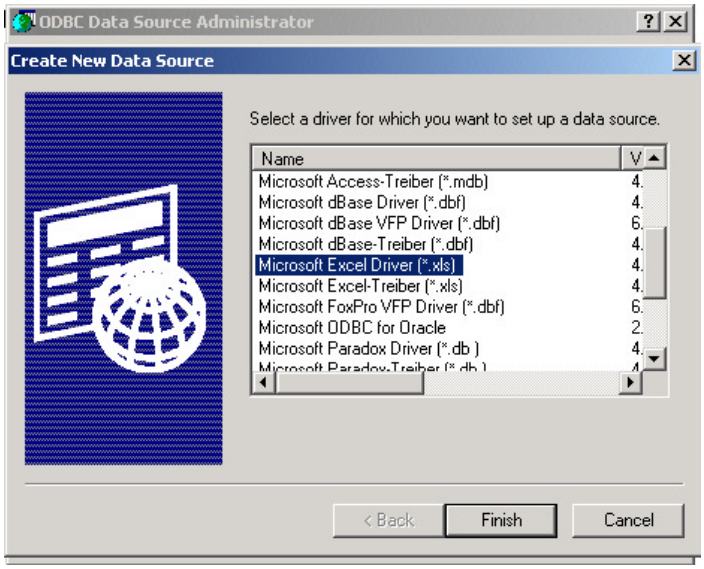
Double click on the **ODBC Data Source** icon to display the "ODBC Data Source Administrator" dialog box. For Windows® 9x, be sure to choose ODBC32.

> ***Note:*** See the section of this manual on using the ***ScanSeek*** *Data Exchange Configuration Wizard* for an alternate method of accessing the ODBC Data Source Administrator.

1. When the ODBC Data Source Administrator dialog box appears, select the *System DSN* tab.



2. Click on the *Add…* button to display the “Create New Data Source” dialog box.

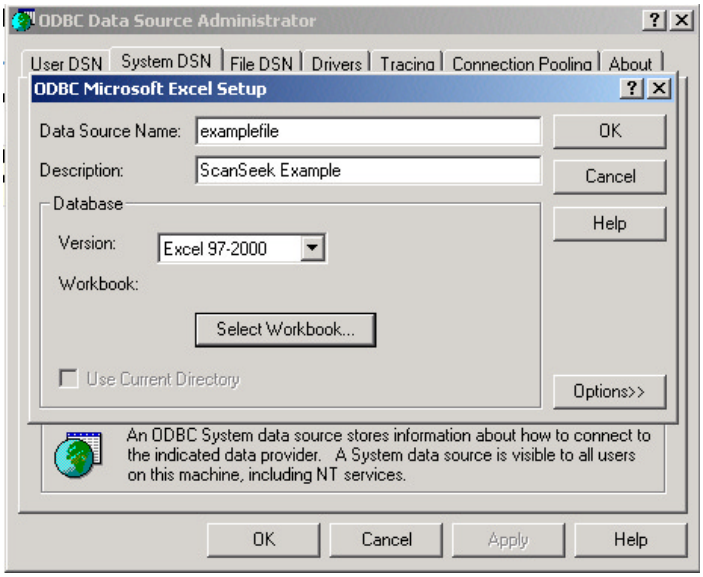


Select the data source’s file type and click **Finish**.

☝To continue configuring a data source that references a Microsoft® Excel, spreadsheet, choose the Microsoft Excel Driver, click Finish, and proceed to *Step 3*.

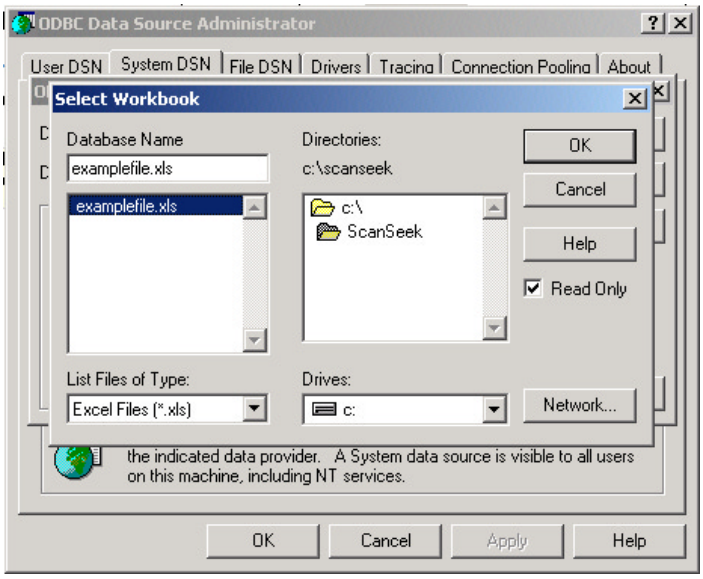
☝To continue configuring a data source that references a Microsoft® Access database, choose the Microsoft Access Driver, click Finish, and proceed to *Step 7*.

3. After clicking on the *Finish* button in Step 2, the “ODBC Microsoft Excel Setup” dialog box will appear.



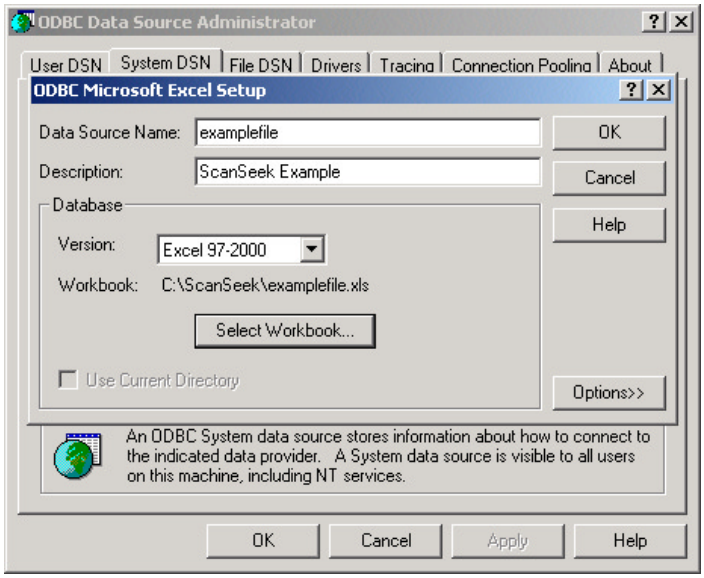
Enter the **Data Source Name** and **Description** into the appropriate fields. The Data Source Name can be any meaningful name. Click the *Select Workbook…* button.

4. After clicking on the *Select Workbook* button, the “Select Workbook” dialog box will appear.

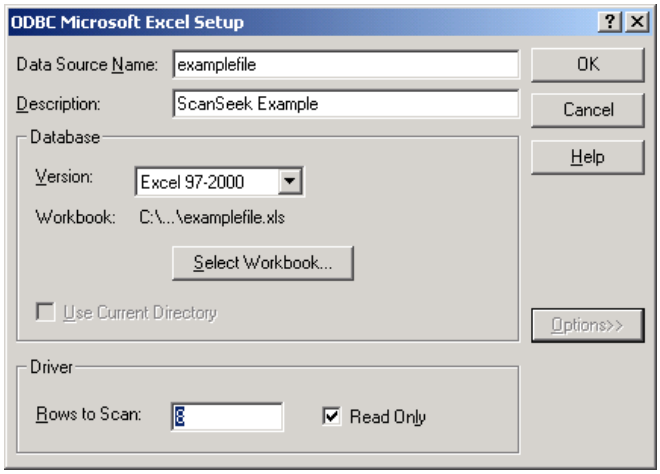


Select the desired Excel file and click the *OK* button. Uncheck the Read Only checkbox if you will be uploading changes from the handheld back to the spreadsheet.

5. Click on the *OK* button in the “ODBC Microsoft Excel Setup” dialog box.

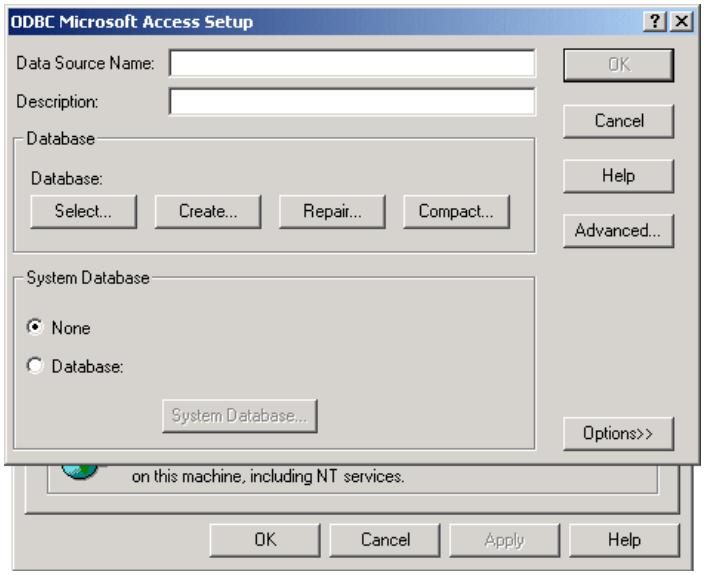


6. Click the *Options*>> button. The “ODBC Microsoft Excel Setup” dialog box will expand to reveal the “Read Only” checkbox. Be sure to uncheck the Read Only checkbox if you want to upload changes you make on the handheld. If you unchecked the Read Only checkbox in Step 4, it should already be set correctly.



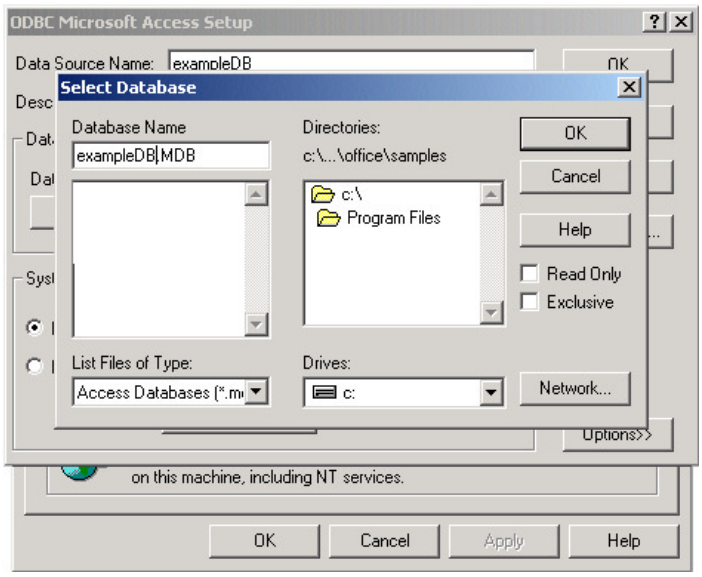
☝Proceed to *Step 10*.

7. After clicking on the *Finish* button in Step 2, the "ODBC Microsoft Access Setup" dialog box will appear.



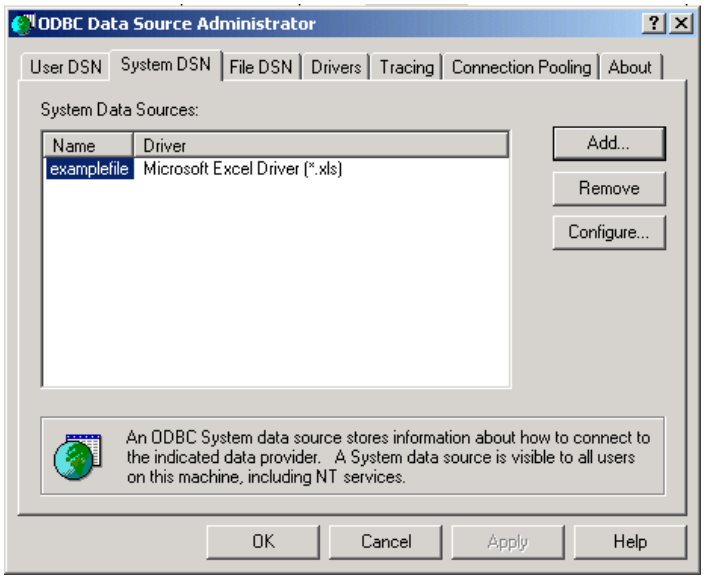
Enter the **Data Source Name** and **Description** into the appropriate fields. The Data Source Name can be any meaningful name. Click the *Select…* button in the Database area**.**

8. After clicking on the *Select…* button, the "Select Database" dialog box will appear.



Browse to and select the database file that contains your data, and then click on the *OK* button.

9. Click on the *OK* button in the “ODBC Microsoft Access Setup” dialog box.



10. In the “ODBC Data Source Administrator” dialog box, you should now see the new *System DSN* listed in the “System Data Sources” table. Click on the *OK* button to close the dialog box and return to the desktop.

Configuring a *ScanSeek* Data Exchange

ScanSeek accesses an ODBC data source using a ***ScanSeek*** *Data Exchange*. This section will explain how to setup and configure a *Data Exchange*.

Planning Data Exchanges

ScanSeek provides a great deal of flexibility in configuring your ODBC Data Source into a useful data collection application. Each set of data that you work with in ***ScanSeek***, along with it's associated configuration information, is known as a *Data Exchange*. Before configuring a *Data Exchange* you should think through the following questions. Doing so will help you work with the ***ScanSeek*** *Data Exchange Configuration Wizard* to choose the correct options for your application.

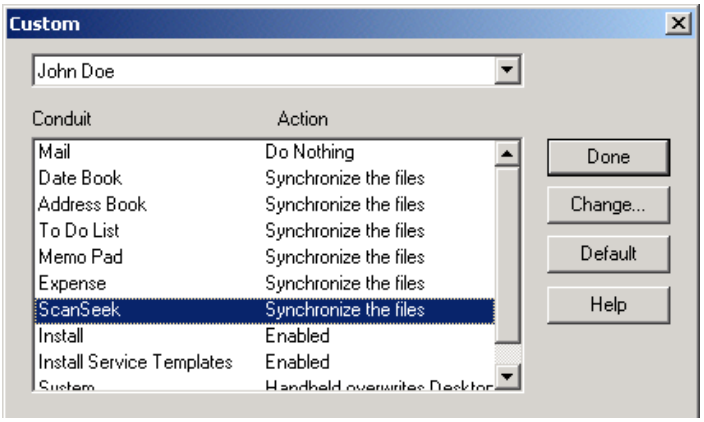
- Will every data record consist of a unique identifier or barcode along with some associated information? Example: Each record describes a piece of equipment identified by a unique serial number. There will never be two records with the same serial number.
- Alternatively, will most records be duplicates of template records with minor changes between records? Example: Each record describes a maintenance task performed on a piece of equipment. In this case, the equipment serial number may appear in many records, although each record may have a different timestamp or work detail.
- Are some fields in your records limited to a specific set of values? Are these values enumerated in a database table or spreadsheet named range? Example: A field in your record indicates the Model Number of a piece of equipment. You would like all known Model Numbers to appear in a drop-down list on the handheld rather than have to re-enter them by hand for each record.
- If you are downloading information from an existing data source, do you want to limit the download to a subset of the fields in a particular table or named range? Example: Your database records include accounting information that will never be entered on the handheld. You want to download all the fields except those related to accounting functions.
- Are you modifying or copying data from records for which one or more fields should not be changed? Example: You are scanning participants entering an exhibition hall. When you scan a badge, you want to verify participant information and record the date and time of the scan. You don't want to change any information except the date/time.
- Are one or more fields in your application required? Example: You are taking inventory and want to make sure that a current location is entered for every item scanned.
- Will the application be used as part of a work process in which data changes rarely between scans? Example: You are taking inventory and want to retain the last item number and location between scans until you manually change them.
- Is your download data source the same as your upload data source? Example: You are downloading an initial inventory list from one table in your database but are uploading all collected data into a separate "changes" table.

Configuring a Data Exchange

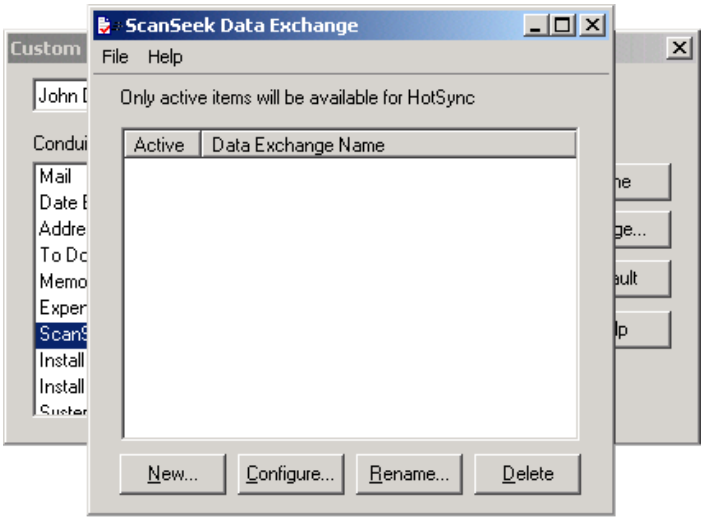
In order to configure your ***ScanSeek*** application to work with your handheld device, you must set up one or more ***ScanSeek*** *Data Exchanges.*

1. To begin setting up and configuring a ***ScanSeek*** *Data Exchange*, right-click on the HotSync® icon and select *Custom…* from the menu, or choose Programs>ScanSeek>ScanSeek from the Windows Start Menu.

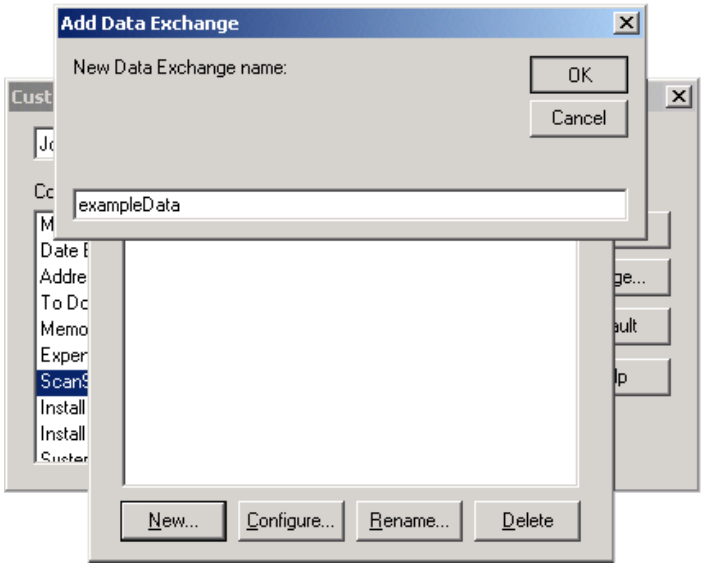
2. In the "Custom" dialog box, highlight "ScanSeek" and click on the *Change…* button.



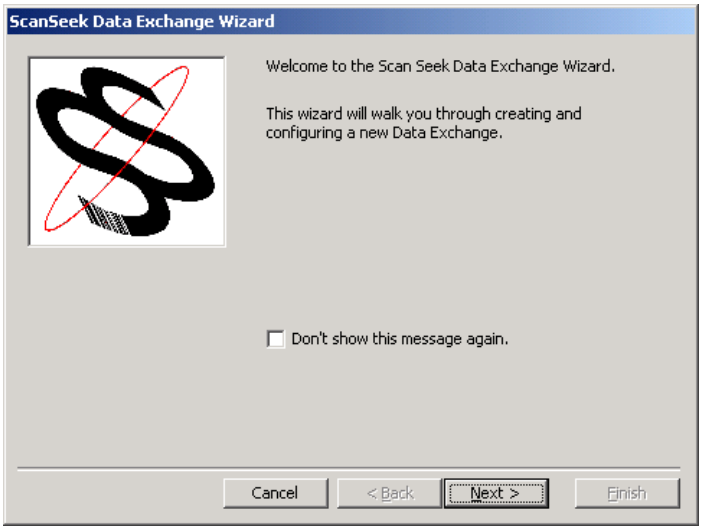
3. The "ScanSeek Data Exchange" dialog box will appear next. All *Data Exchanges* configured for use on the handheld will be listed in the "Active/Data Exchange Name" box. To create a new *Data Exchange* click on the *New…* button. To reconfigure an existing Data Exchange, click on the *Configure…* button.



4. In the “Add Data Exchange” dialog box, enter the name for the new *Data Exchange*, and click on the *OK* button. You can choose any meaningful name for the *Data Exchange.*



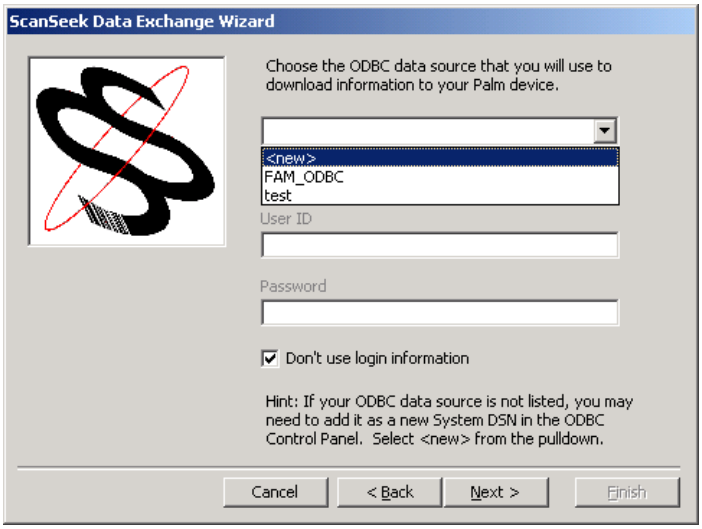
5. After naming the *Data Exchange*, the ***ScanSeek*** *Data Exchange Wizard* will appear. Follow the wizard’s on-screen instructions to complete the configuration of the new *Data Exchange*. Click on the *Next>* button to get started.


ScanSeek Data Exchange Wizard
Welcome to the Scan Seek Data Exchange Wizard.
This wizard will walk you through creating and configuring a new Data Exchange.
Don't show this message again.
Cancel
< Back
Next >
Finish

6. The wizard will ask you to choose the ODBC data source where the target data will be stored. A drop down menu will list the names of properly configured ODBC data sources (System DSNs). If you have not yet configured a data source, choose the <new> option to bring up the ODBC Data Source Administrator. See the section on *Setting Up Open Database Connectivity (ODBC)* for more information.

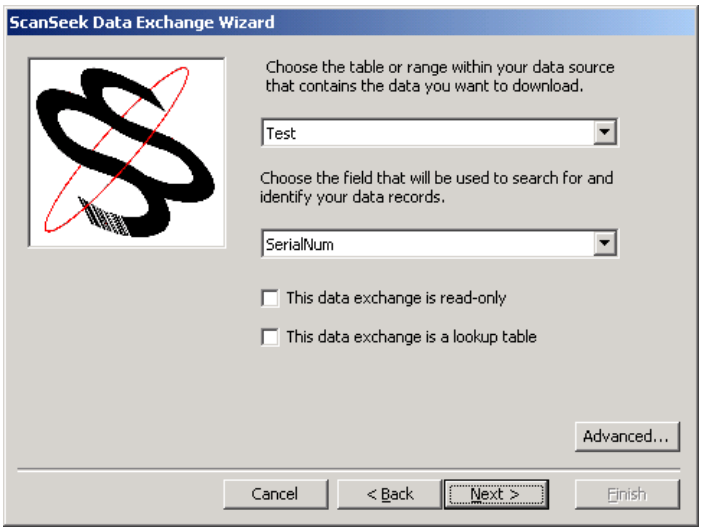
   Note: *The data source may require a User ID and Password, if this is the case, you may enter that information into the appropriate fields in this dialog box. (Contact your System Administrator for assistance if you do not know the User ID and Password).*

   When all information has been entered correctly, click on the *Next>* button.


ScanSeek Data Exchange Wizard
Choose the ODBC data source that you will use to download information to your Palm device.
<new>
FAM_ODBC
test
User ID
Password
Don't use login information
Hint: If your ODBC data source is not listed, you may need to add it as a new System DSN in the ODBC Control Panel. Select <new> from the pulldown.
Cancel
< Back
Next >
Finish

7. The wizard will prompt you to enter either the name of a range (if you are using a spreadsheet) or the name of a table (if you are using a database). Use the drop down menu to specify the range/table to be accessed.

   Next, specify the field to be used from the data source as a *search field* using the second drop down menu.


ScanSeek Data Exchange Wizard
Choose the table or range within your data source that contains the data you want to download.
Test
Choose the field that will be used to search for and identify your data records.
SerialNum
This data exchange is read-only
This data exchange is a lookup table
Advanced...
Cancel
< Back
Next >
Finish

In choosing your *search field*, keep in mind that this is the field ***ScanSeek*** will use to scan, search, and identify individual records. In many cases, the *search field* will correspond to the unique record identifier (or primary key) for your database table. It will also be the first barcode scanned in most barcode scanning applications.

Under the *search field* selection, ***ScanSeek*** has two options that allow you to customize the application's behavior.

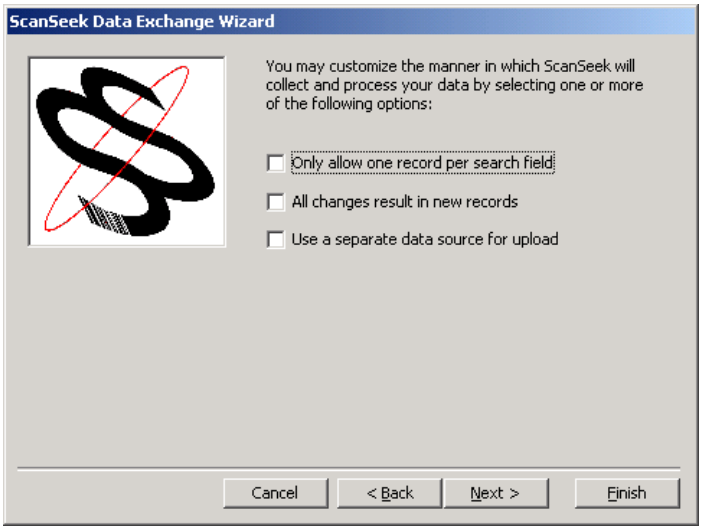
This Data Exchange is read-only. The first option allows you to specify that the *Data Exchange* contains read-only data. If this option is checked, records cannot be added, modified, or deleted from the *Data Exchange* in the handheld application.

This Data Exchange is a lookup table. The second option allows you to specify that the *Data Exchange* can be used as a lookup, or cross-reference table for other *Data Exchanges*. See the section on *Data Exchanges as Lookup Tables* for more information.

On the lower right corner of the wizard you will also see a button labeled *Advanced…* Clicking this button takes you to the Advanced Properties screen where you can specify individual attributes for each of the fields in your range or table. See the section on *Advanced Field Settings* for more information.

8. After clicking on the *Next>* button, the wizard allows you to customize the way ***ScanSeek*** collects data and posts changes to your data source. See the section titled "Planning Data Exchanges" for examples of various factors involved in choosing these options.

   Note: *If you checked the "lookup table" option in the previous step, you will configure your lookup table options before proceeding to this screen.*


ScanSeek Data Exchange Wizard
You may customize the manner in which ScanSeek will collect and process your data by selecting one or more of the following options:
Only allow one record per search field
All changes result in new records
Use a separate data source for upload
Cancel
< Back
Next >
Finish

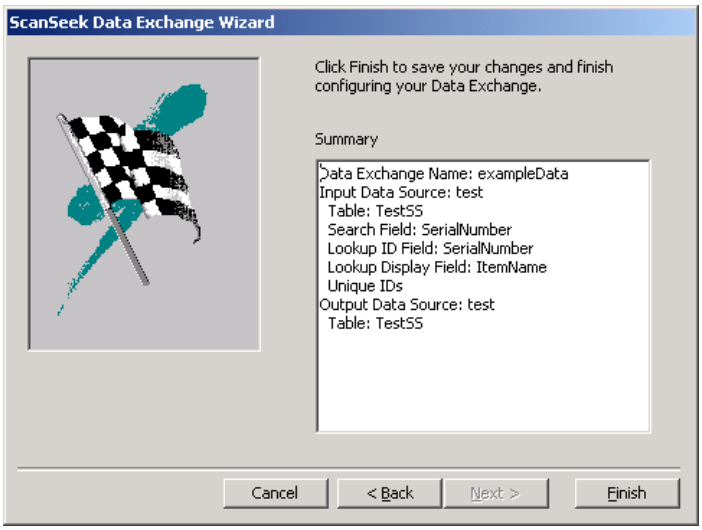
Only allow one record per search field. Choose this option if your *search field* uniquely identifies a record and no two records will share the same *search field* value.

All changes result in new records. Choose this option if your downloaded records are templates and you want all new records to be modified copies of existing records. In this case, the search field will not be unique.

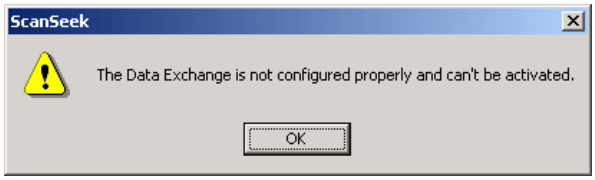
Use a separate data source for upload. Choose this option if you want to upload changes to a different table, range, or even different ODBC Data Source from your download. See the section titled "Separate Output Option" for more information.

9. If you have chosen to use a separate data source for uploading data, you will be led through two additional screens that allow you to select an ODBC Data Source and table/range for upload. The ODBC Data Source and table chosen can be completely different from those chosen for download. You will not be asked to identify a separate search field. Once you are done configuring these options, click on the *Next>* button to continue.

10. The wizard will display a summary screen that shows an overview of the *Data Exchange* configuration. Verify all of the information to make sure that the *Data Exchange* is configured properly. Should you need to make corrections, click on the *Back* button. If everything is correct, click on the *Finish* button.



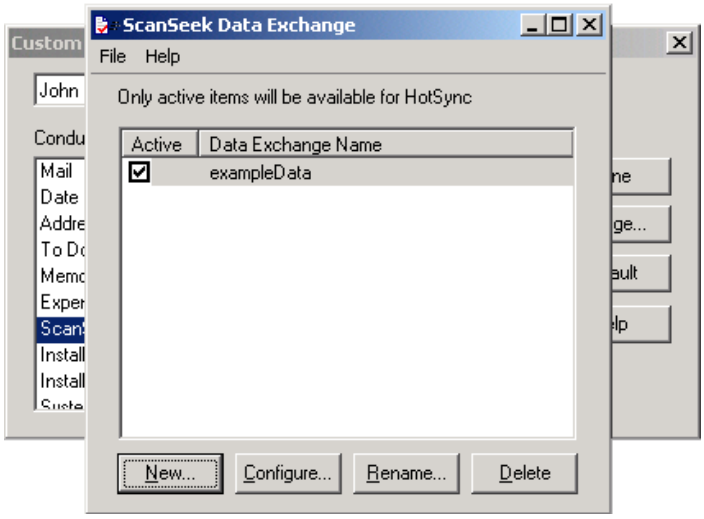
11. ***ScanSeek*** will attempt to validate your new *Data Exchange* configuration by verifying that all necessary attributes (e.g., ODBC Data Source, search field) have been assigned and all field options are valid. If ***ScanSeek*** finds any errors, an error box will be displayed and the *Data Exchange* will be marked as Inactive.



When possible, an additional message window will be displayed describing any errors found in more detail.

12. In the "ScanSeek Data Exchange" dialog box, verify that the checkbox to the left of the newly created *Data Exchange* is selected, marking the *Data Exchange* as Active.

    Note: *Only Active Data Exchanges will be downloaded to the handheld. You may want to de-activate a Data Exchange if you have more than one application you are using with* ***ScanSeek*** *but only want to use one at a time, or if you want to keep* ***ScanSeek*** *from synchronizing each time you HotSync.*



13. To close the dialog box and exit the program, click on the button in the upper right-hand corner of the "ScanSeek Data Exchange" dialog box.

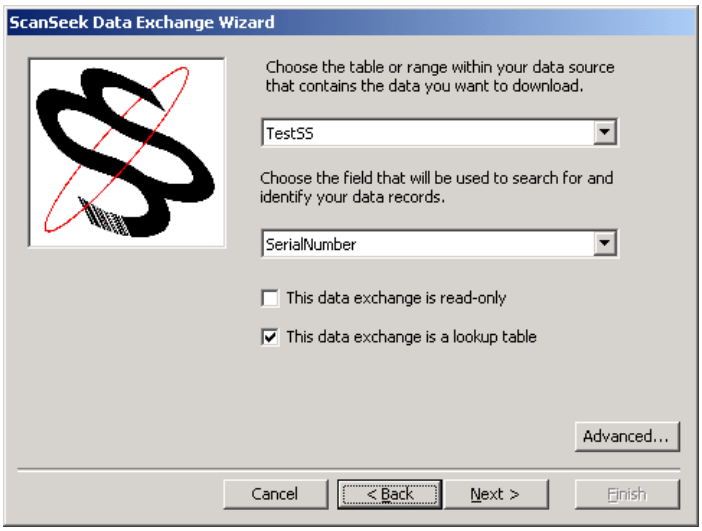
Data Exchanges as Lookup Tables

Lookup tables provide a method to associate the records from one *Data Exchange* as a list of options for a field in another *Data Exchange.* In database terms, *lookup tables* create a *relationship* between two tables. For example, you may use one *Data Exchange* to represent all possible inventory locations in your building. A second *Data Exchange* may represent actual inventory records including an SKU, a location, and a count of items in that location. Using the first *Data Exchange* as a *lookup table* for the location field in the second *Data Exchange* will allow you to limit those records to only hold valid locations. In addition, ***ScanSeek*** will provide a drop-down list box on the handheld for choosing the valid locations from a list, eliminating data entry errors.

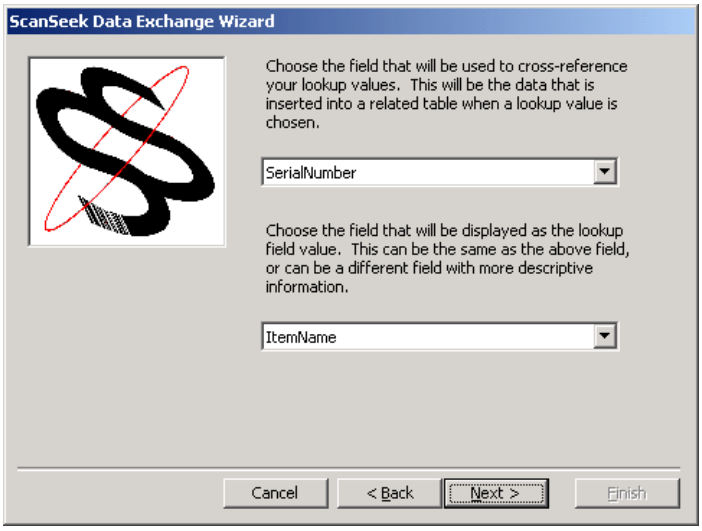
The steps below will guide you through the setup of a *Data Exchange* as a *lookup table*.

1. Begin by following steps 1 through 7 in the section entitled "Configuring a Data Exchange."

2. After configuring your download table and search field, click on the checkbox that reads "The data exchange is a lookup table". Click on the *Next>* button.


ScanSeek Data Exchange Wizard
Choose the table or range within your data source that contains the data you want to download.
TestSS
Choose the field that will be used to search for and identify your data records.
SerialNumber
This data exchange is read-only
This data exchange is a lookup table
Advanced...
Cancel
< Back
Next >
Finish

3. The wizard will prompt you to choose a cross-reference field and a display field. The cross-reference field, also referred to in ***ScanSeek*** as a *Lookup ID*, represents the actual value that will be placed in a *Data Exchange* field. The display field, also referred to in ***ScanSeek*** as a *Lookup Display*, is often a more descriptive field that a user can recognize when viewing the data on the handheld. Although the *Lookup Display* value will appear on the screen when viewing a data record, the *Lookup ID* value will be stored in the data field.


ScanSeek Data Exchange Wizard
Choose the field that will be used to cross-reference your lookup values. This will be the data that is inserted into a related table when a lookup value is chosen.
SerialNumber
Choose the field that will be displayed as the lookup field value. This can be the same as the above field, or can be a different field with more descriptive information.
ItemName
Cancel
< Back
Next >
Finish

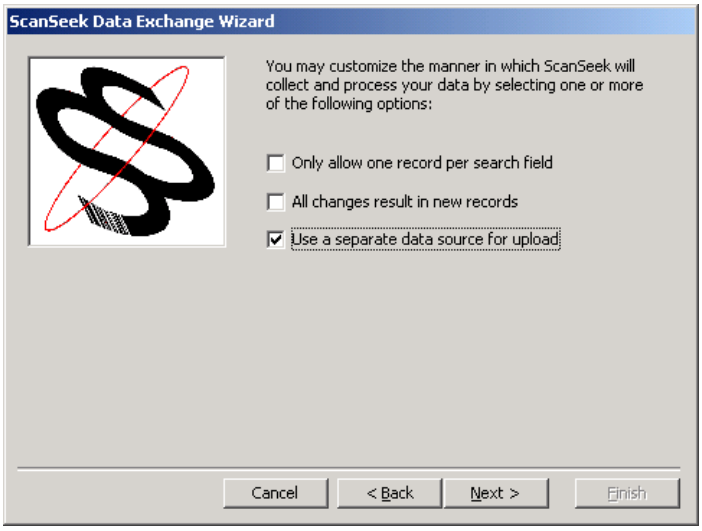
As an example, a typical database of parts will include a SKU or Part ID (such as #PPC-3345), along with a text description of the part (such as ¾ " wingnut). Your ordering system uses the SKU to identify all orders, but your field personnel using the handheld don't have all of the SKU numbers memorized. In this case, the SKU would be the *Lookup ID*, and the text description would be the *Lookup Display*.

> ***Note:*** *Whenever possible, your Lookup ID should be the same as your Data Exchange search field. Not doing so can cause considerable slow-down in the handheld application, particularly with large lookup tables.*

4. When you are done, click the *Next>* button and proceed to step 8 in the section titled "Configuring a Data Exchange".

Separate Output Option

There are many reasons to use a separate data source for upload. In some cases, information policies of your organization may require that the original data sources must not be tainted by new data from external sources. In other cases, the download data source contains a set of pristine "templates", or records that are copied as the starting point for new data. In such cases, you will often want to upload data to a separate spreadsheet, database, or file that only contains newly collected data.


ScanSeek Data Exchange Wizard
You may customize the manner in which ScanSeek will collect and process your data by selecting one or more of the following options:
Only allow one record per search field
All changes result in new records
Use a separate data source for upload
Cancel
< Back
Next >
Finish

By configuring a separate output, ***ScanSeek*** will write all changes to a different (upload) data source. That upload data source and corresponding range/table must match the download range/table closely. The target (upload) table must use field names that correspond exactly with the download table field names. In addition, the data types (text, numeric, date/time, etc.) for each field must match.

The actual implementation of the upload data source can be very different. For instance, it is possible to download data from a relational database (such as Microsoft® Access) and upload data back to a spreadsheet (such as Microsoft® Excel). Again, the only requirement is that the upload and download data sources must have matching field names and field types.

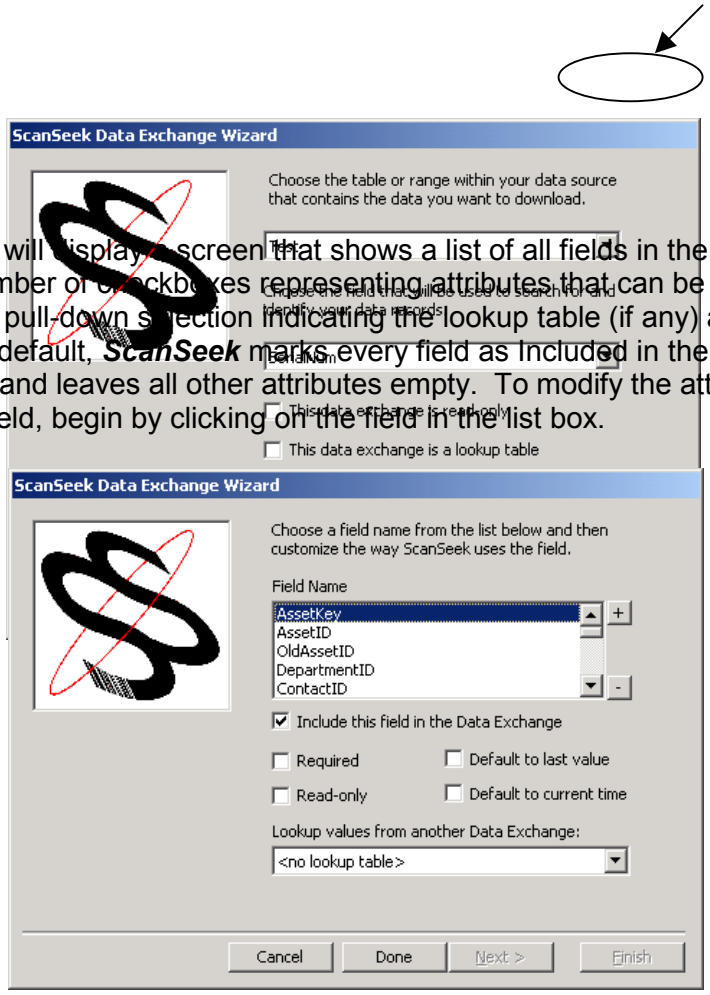
Advanced Field Settings

In addition to supporting customization of a *Data Exchange* as a whole, each field in an included table or range can be customized separately. The steps below will guide you through each of the settings and their use.

1. Begin by following steps 1 through 7 in the section titled "Configuring a Data Exchange".

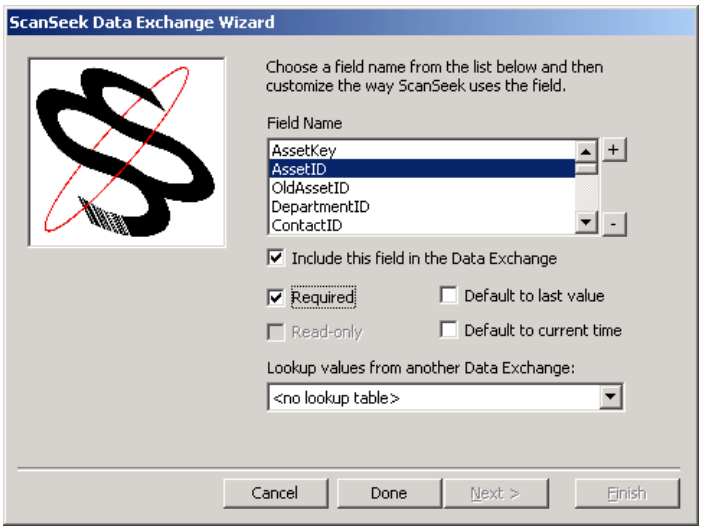
2. From the screen shown below, click on the *Advanced…* button.

3. The wizard will display a screen that shows a list of all fields in the download table, a number of checkboxes representing attributes that can be set for each field, and a pull-down selection indicating the lookup table (if any) associated with a field. By default, ***ScanSeek*** marks every field as Included in the *Data Exchange*, and leaves all other attributes empty. To modify the attributes of a particular field, begin by clicking on the field in the list box.

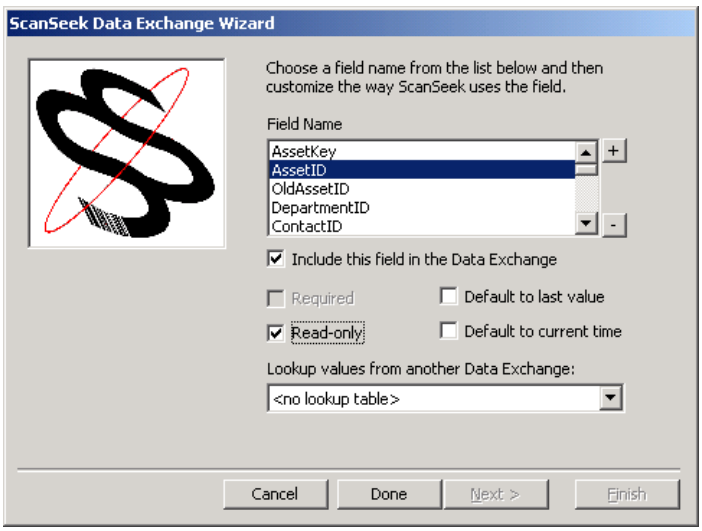

ScanSeek Data Exchange Wizard
Choose the table or range within your data source that contains the data you want to download.
This data exchange is a lookup table
ScanSeek Data Exchange Wizard
Choose a field name from the list below and then customize the way ScanSeek uses the field.
Field Name
AssetKey
AssetID
OldAssetID
DepartmentID
ContactID
Include this field in the Data Exchange
Required
Default to last value
Read-only
Default to current time
Lookup values from another Data Exchange:
<no lookup table>
Cancel
Done
Next >
Finish

4. To indicate that a particular field should not be included in the *Data Exchange*, and therefore will not appear on the handheld, uncheck the "Include this field in the Data Exchange" checkbox. The *search field* for the *Data Exchange* must be included. Attempting to uncheck the Included box for the *search field* will result in the following error message.

5. To indicate that a field is required, check the “Required” checkbox. Notice that the “Read-only” checkbox is unavailable for required fields. When editing a record on the handheld, required fields must be filled in before saving.

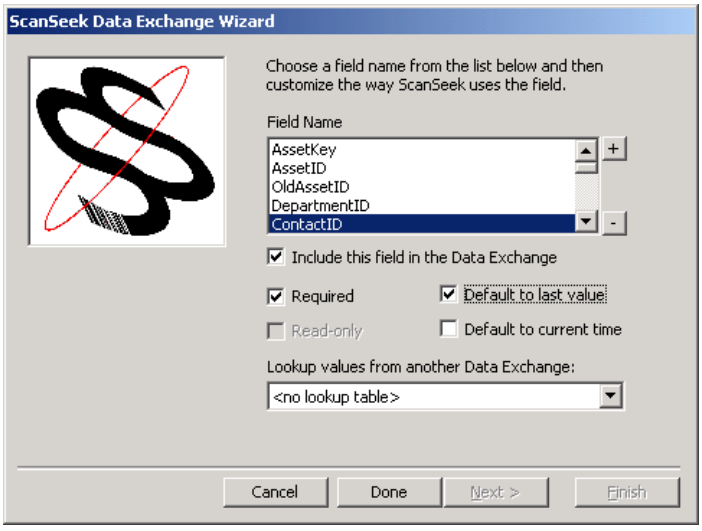


6. To indicate that a field is read-only, check the “Read-only” checkbox. Notice that the “Required” checkbox is unavailable for read-only fields. When editing a record on the handheld, you will not be able to modify read-only fields regardless of the read-only status of the *Data Exchange*. This option is particularly useful when using the “All changes result in new records” option for the *Data Exchange*. In this case, you may include necessary information in each record without allowing the handheld user to change the “template” part of the record.



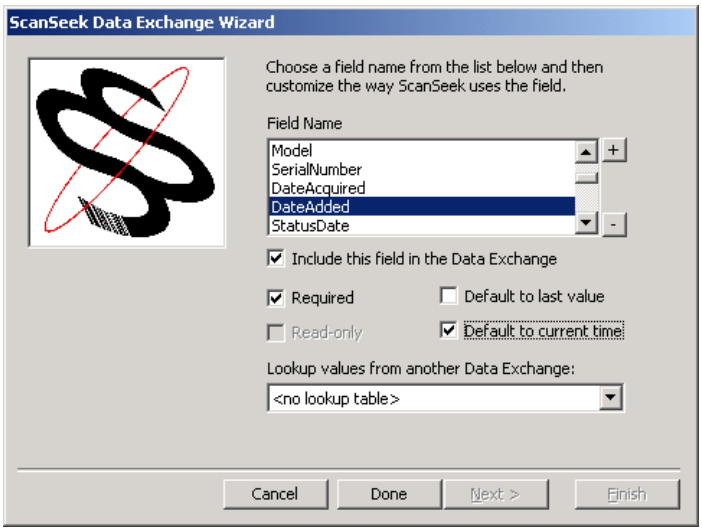
7. When performing repetitive data collection tasks, there is often only a small amount of information that changes between records. For instance, while performing inventory you may be collecting data for hundreds of items that share

the same location and count. To keep from having to re-enter the same data for each record, you can choose the "Default to last value" option. When this option is selected, the designated field will retain its value from record to record. The carried over value will remain the same until manually changed by the handheld user. Once changed, the new value will again be carried over between records, and so on.



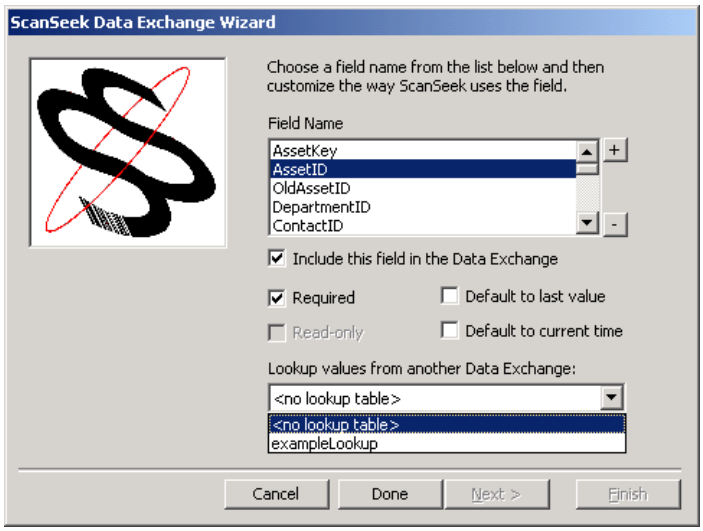
8. By default, the current date and time will be used for every date/time field whenever a user adds a new record on the handheld. This is not the behavior, however, when copying an existing record. By default, the value of the original record is copied along with the rest of the data when copying. In cases where the copied record represents a template record, and an included date/time field represents a timestamp for the newly created record, check the "Default to current time" option for the timestamp field.

   Note: *The "Default to current time" option will only change the behavior of* ***ScanSeek*** *when copying existing records. New (blank) records always default date/time fields to the current date time regardless of this option.*



9. To designate a *lookup table* associate with a field, choose the *Data Exchange* that contains the appropriate lookup values from the drop-down list box at the bottom of the form.

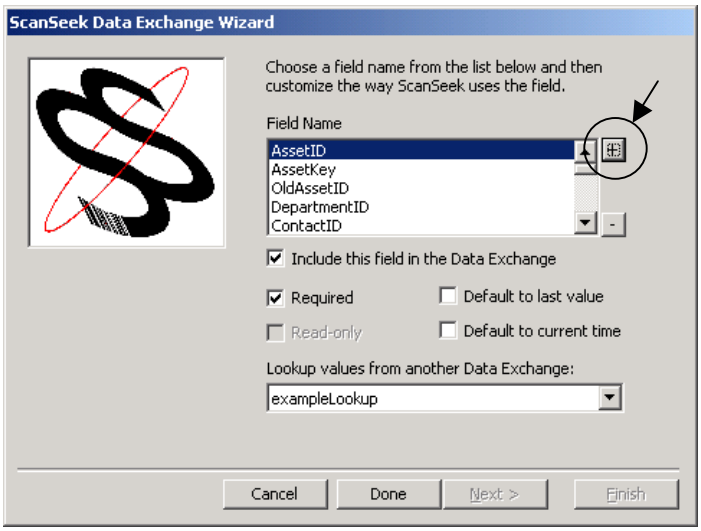
   Note: *Only existing Data Exchanges that have been designated as lookup tables are available in the lookup table list box. It is good practice to configure lookup table Data Exchanges before configuring the Data Exchanges that use them.*



   The *Lookup ID* field associated with the selected *lookup table Data Exchange* must have the same type (text, number, date/time, etc.) as the field you are configuring. If the field types do not match, you will see the following error.

   See the section titled “Data Exchanges as Lookup Tables” for more information on creating *lookup table Data Exchanges.*

10. In addition to allowing you to include and exclude individual fields, ***ScanSeek*** also supports re-ordering the fields as they appear on the handheld. Fields will appear on the handheld in the same order that they appear in the field list on the form. To move a field up in the list, highlight the field and click the + button next to the field list. To move a field down in the list, highlight the field and click the – button next to the field list. The picture below shows the field list after the AssetID field has been moved up.



11. When you have finished configuring each field in your *Data Exchange*, click on the *Done* button.

Working with ScanSeek on the Handheld

Start the application on the device by tapping the ***ScanSeek*** icon once.

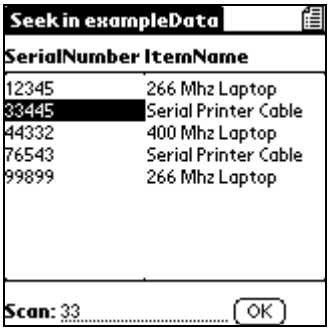
ScanSeek will display the "Choose a Data Exchange" screen. This screen serves as an access point for all *Data Exchanges* configured within ***ScanSeek***. Once a *Data Exchange* has been configured and made Active, it will appear in this screen the next time you launch the application after performing the HotSync® function.

To begin working with a *Data Exchange*, tap its name.

The "Seek in <data exchange name>" screen presents a summary view of the data in the *Data Exchange.* The left hand column lists the *search field* value for every record. The right hand column shows the first field in the *Data Exchange* other than the search field. On the upper right corner of the screen you will see an icon that looks like a checklist. Tapping on this icon will return you to the "Choose a Data Exchange" screen.

Searching for a Record

ScanSeek provides a fast way to search for records in your *Data Exchange*. To find a record, begin writing the first few letters or numbers of the search field into the **Scan:** text field at the bottom of the screen. As you write, ***ScanSeek*** will quickly move to the closest match.



Once you see the record you are looking for on the screen, simply tap on the record to view it in more detail. Alternatively, you may write in the entire search field value and tap the OK button.

Adding a New Record

To add a new record, write in the search field or scan a barcode from the “Seek in” screen. If writing, tap the *OK* button. ***ScanSeek*** will prompt you to confirm the creation of a new record. Tap the *Yes* button to continue.

Seek in exampleData
SerialNumber ItemName
12345 266 Mhz Laptop
Add new record?
The id you entered was not found in the database.
Would you like to add a new record?
Yes
No

ScanSeek will then construct a new record and display the “Edit” screen. You will notice that the Edit screen looks similar to the detail view of the record. You can differentiate

between the two by observing that the Edit screen uses a bold font to display field information and provides extra spacing between fields.

Copying a Record

If your *Data Exchange* was configured with the "All changes result in new records" option, the detail view screen will include a button labeled "Copy". To copy the record and begin editing, simply tap on the Copy button.

Editing a Record

To edit a record, you must Add a new record, Copy an existing record, or choose the Edit button from the record detail view. The Edit screen displays the name of each field in the *Data Exchange* followed by the field data. Longer field names may be truncated. To edit a particular field, tap on the field data. The manner in which you edit a field depends upon the field's type, which is automatically determined by ***ScanSeek*** during HotSync. ***ScanSeek*** supports five different field types: Text, Integer, Floating Point, Boolean, and Date/Time.

Editing a Text Field

To edit a text field, tap anywhere on the text associated with the field. Longer text values may span more than one line. The text editing popup will appear. This popup includes the field name in the upper left, an editable text field, a scroll bar (may not be visible for short text fields), and a "Close" button marked with an *x*. Text on the popup may be edited through Graffiti, the virtual keyboard, or by scanning a barcode.

Record 1 of 1
Text:
Text Data
Numeric:
1230
Text
This data is long enough to cause the text editing form to display a scroll bar along the right hand side.
Done

Editing an Integer Field

To edit an integer (whole number) field, tap anywhere on the line containing the number you want to change. The virtual keyboard will appear with the numeric keypad displayed. Use the numeric keypad to make any changes. Tap the *Done* button to finish.

Editing a Floating Point Field

To edit a floating point (number with decimal point) field, tap anywhere on the line containing the number you want to change. The virtual keyboard will appear with the numeric keypad displayed. Use the numeric keypad to make any changes. Tap the *Done* button to finish.

Editing a Boolean Field

To edit a Boolean (True/False) field, tap on the True or False value displayed. A pop-up list box will appear containing the two values True and False. Tap on the list entry you want to change the field to.

Editing a Date/Time Field

Date values and time values associated with a single date/time field are edited separately. To change the date portion of a field, tap on the date line of the field you want to change. The Calendar control will appear, allowing you to quickly choose any date. Start by selecting the year and month of the date, then tap on the desired day of the month to finish. Alternatively, tap on the *Today* button to use the current date.

Select a new date
2001
Jan Feb Mar Apr May Jun
Jul Aug Sep Oct Nov Dec
S M T W T F S
1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
Cancel
Today

To change the time portion of a field, tap on the time line of the field you want to change. The Time control will appear, allowing you to quickly choose any time. Tap the *OK* button to finish.

Note: *The Time control shown in this picture will appear on devices running Palm OS® version 3.1 or higher. Version 3.0 devices will display a different Time control that allows selection of both a start and end time.* ***ScanSeek*** *will only use the start time selected with that control.*

Editing a Lookup Field

Fields that have *lookup table Data Exchanges* assigned to them appear as drop-down list boxes on the handheld. In the example below, an Edit screen is shown in which the ItemName field uses another *Data Exchange* as a *lookup table*. You may choose any of the lookup records listed, or add a new record to the lookup *Data Exchange* by tapping the <*New*> entry.

After tapping <*New*>, ***ScanSeek*** will change the Edit screen to show the lookup *Data Exchange.* In this case, the record only has one field, whose initial value is set to **<change this>**. To enter a new ItemName, tap on the **<change this>** entry and change the text in the popup text box. When finished, tap the *x* button in the text box and then the *Done* button in the Edit screen.

ScanSeek will then return you to the original record you were editing. Notice that the ItemName field has been set to the new value you entered.

Delete a Record

To delete a record, begin by selecting the record from the "Seek in" screen, or alternatively by editing the record in the Edit screen. Next, tap on the silkscreen Menu icon located on the lower left corner of your screen next to the Graffiti writing area. Choose the *Delete Record* option from the *Program* menu. You will be prompted to verify deletion of the record. Tap *Yes* to delete the record. Once you have deleted the record, you will be returned to the "Seek in" screen.

Note: *To cancel the creation of a New record while in Edit mode, simply use the Delete Record menu option.*

Handheld Program Preferences

The ***ScanSeek*** handheld application allows you to customize the way your data collection application works through a set of program *Preferences.* To change your program *Preferences*, tap on the silkscreen Menu icon located on the lower left corner of your screen next to the Graffiti writing area. Choose the *Preferences* option from the *Program* menu. The "ScanSeek Preferences" dialog will appear.

The following four options are available.

1. *Don't ask when adding new.* Choose this option to avoid having to verify the addition of each new record by tapping *Yes* on the following screen.

Seek in exampleData
SerialNumber ItemName
12345 266 Mhz Laptop
Add new record?
The id you entered was not found in the database.
Would you like to add a new record?
Yes
No

2. *Add new instead of copying.* If your *Data Exchange* has been configured to use the "All changes result in new records" option, each time you write or scan an existing search field value you will be taken to a detail view in which you may copy the existing record by tapping on the *Copy* button.

   Choose the *Add new instead of copying* option if you would prefer to create new blank records and proceed directly to the Edit view.

3. *Hide 'lookup' Data Exchanges.* Choose this option to hide all *lookup table Data Exchanges* in the "Choose a Data Exchange" screen. This option is often useful in applications that use a single data collection *Data Exchange* and multiple read-only *lookup table Data Exchanges.*

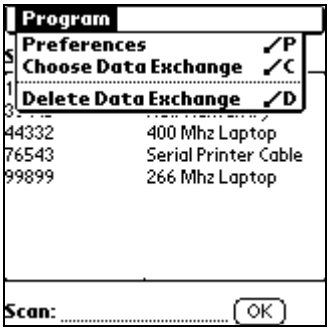
4. *Auto-Scroll when scanning.* For barcode-enable handheld devices, ***ScanSeek*** has been optimized to support multiple scan workflow. When this option is chosen, ***ScanSeek*** will automatically set the current editing focus to the first empty text field in the application, indicated by a solid underline beneath the field value. After each scan, ***ScanSeek*** will move the focus to the next empty field following the scanned field. If no more empty fields exist, and the user has not manually edited any fields, ***ScanSeek*** will indicate completion of record editing with three short beeps. Pressing the scan button a final time will indicate acceptance of the record, and ***ScanSeek*** will proceed as if the *Done* button had been pressed. See the section titled "Working With a Barcode Scanner" for more information.

When you are finished customizing ***ScanSeek*** *Preferences*, tap the *OK* button.

> ***Note:*** *Preferences are shared by all Data Exchanges in the application. Changes made to Preferences while working with one Data Exchange will continue to be used for all other Data Exchanges until they are again changed by the user.*

Changing Data Exchanges

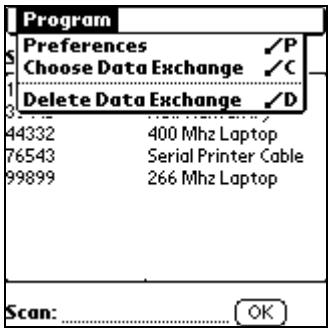
To finish working with a Data Exchange and begin working with a different one, choose the *Choose Data Exchange* menu option from the "Seek in" form. Tap on the silkscreen Menu icon located on the lower left corner of your screen next to the Graffiti writing area. Choose the *Choose Data Exchange* option from the *Program* menu. ***ScanSeek*** will return to the "Choose a Data Exchange" form, where you may choose a new *Data Exchange* to work with. Alternatively, you can tap on the *Data Exchange List* icon in the upper right corner of the "Seek in" form.



Deleting a Data Exchange

There may be times in which you want to completely delete a *Data Exchange.* This may occur if you want to discard changes made on the handheld to keep them from being uploaded during HotSync, if you are finished working with a *Data Exchange* permanently, or if you have made changes to your *Data Exchange* configuration on the PC and need to remove a *Data Exchange* to allow HotSync to complete properly.

To delete a *Data Exchange*, select the *Data Exchange* from the "Choose a Data Exchange" screen. Then select the *Delete Data Exchange* menu option from the "Seek in" form. Tap on the silkscreen Menu icon located on the lower left corner of your screen next to the Graffiti writing area. Choose the *Delete Data Exchange* option from the *Program* menu. You will be asked to confirm the deletion. Tap *Yes* to permanently delete the *Data Exchange.*



Seek in exampleData
Delete Data Exchange?
Are you sure you want to delete the current Data Exchange?
This will cause you to lose all local data, but will not affect your PC data.
Yes
No

To delete all *Data Exchanges* from the handheld, select the *Delete All* menu option from the "Choose a Data Exchange" screen. Tap on the silkscreen Menu icon located on the lower left corner of your screen next to the Graffiti writing area. Choose the *Delete All* option from the *Program* menu. You will be asked to confirm the deletion. Tap *Yes* to permanently delete all *Data Exchanges.*

Note: *Deleting a Data Exchange from the handheld will not have any effect on your PC Data Exchange configuration or on any data in your PC data source. It will not cause PC data records to be deleted.*

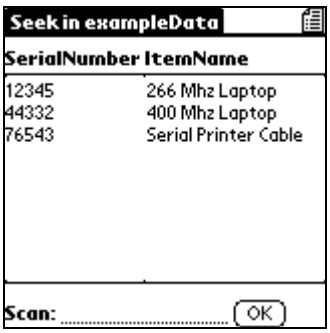
Working With a Barcode Scanner

ScanSeek supports barcode scanner enabled Palm OS® devices including the Symbol SPT series and the Handspring Visor utilizing a Symbol CSM150 or PSC Momentum scan module.

> ***Note:*** *If you are using a Visor, you must have the scan module inserted into the unit at the time you retrieve a serial number for licensing. In some cases,* ***ScanSeek*** *will retrieve a serial number from the scan module rather than from the Visor itself.*

Barcode scanning features are automatically enabled whenever ***ScanSeek*** detects barcode scanner capabilities. Scan features are enabled on the "Seek in" form and the Edit form of the application.

From the "Seek in" form, scan a barcode associated with the search field to automatically view a matching record. You do not need to tap the *OK* button. If the scanned barcode value does not match an existing search field, ***ScanSeek*** will assume you are adding a new record.

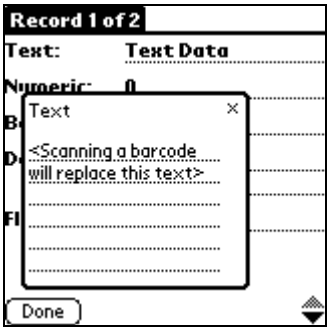


From the Edit form, the current *scan focus field* will have a solid (vs. gray or dotted) underline. Scanning a barcode will automatically update the *scan focus field* to the scanned value. If you have chosen the *Auto-Scroll* feature from the application *Preferences,* the focus will then move to the next empty text field in the application.

If you have not tapped the screen with your stylus while editing the record, ***ScanSeek*** will beep three times after scanning the last scannable field, indicating completion. Pressing the scan button on the handheld one more time will send a *Done* message to the handheld, with the same effect as tapping the *Done* button. The purpose of this feature is to support scanning applications that do not require looking at or tapping on the handheld screen during data collection. In this mode, a user can scan a search field to add a new record, quickly scan collected data, and then press the scanner button a

final time to save the record. Tapping on the screen any time a record in Edit mode will cancel this functionality until a new record is edited.

To scan a barcode into a field that does not have the *scan focus*, simply tap on the field to bring up the popup text form. Once the form is displayed, scan the barcode. ***ScanSeek*** will automatically save the barcode data and close the popup text form.



Note: ScanSeek *has been designed so that every scan function can also be completed using the stylus on a non scan-enabled device.*

Synchronizing Data Through HotSync

Whether you are downloading a *Data Exchange* to your handheld for the first time, or uploading hundreds of new records, all data transfer between the handheld and your PC data source occurs through the HotSync process. To initiate a HotSync, place your Palm OS® device in its cradle and press the HotSync button located on the cradle. The following steps occur during each HotSync.

1. ***ScanSeek*** attempts to open your *Data Exchange* configurations on the PC and ensure that each has a valid configuration.

2. Each handheld *Data Exchange* that contains new or modified records is compared to the PC *Data Exchange*. If the number, names, order, and type of the fields match, synchronization will continue. If not, ***ScanSeek*** will write an error message to the HotSync log and will not continue synchronizing.

3. Data from each *Data Exchange* is transferred to the upload data source. ***ScanSeek*** chooses the order of upload (e.g., which *Data Exchange* is uploaded first, second, etc.) based upon dependencies between lookup fields and *lookup table Data Exchanges*.

4. If errors are encountered while writing data to the data source, ***ScanSeek*** will place a log file in the main application directory, usually C:\Program Files\ScanSeek. The log file will have the same name as the *Data Exchange* followed by the suffix ".log". Each line in the log file will correspond to the data source record being written to, in comma-delimited format. In addition, specific details of the error encountered are written to the application log. See your operating system documentation for more details on where to find the application log.

5. Once data upload has been completed, ***ScanSeek*** clears all data off the handheld and begins downloading data for each Active *Data Exchange*. Although upload occurs for all *Data Exchanges* on the handheld, only Active *Data Exchanges* will be downloaded.

6. If errors are encountered during download to the handheld, they will be written to the HotSync log and ***ScanSeek*** will not continue synchronizing.

7. Once HotSync is complete, ***ScanSeek*** is ready for use on the handheld. If any errors occur during synchronization, the HotSync Manager application will indicate that errors have been written to the error log.

Advisory/Warnings

This section contains important information about various configuration and usage issues that can cause problems when working with ***ScanSeek***.

Changing Data Structures

Once a ***ScanSeek*** *Data Exchange* has been configure and synchronized to the handheld, the system assumes that the original data structure for that *Data Exchange* will not change. If the number, type, or order of any data field changes, ***ScanSeek*** will have difficulty determining how to post changes made on the handheld. As a result, ***ScanSeek*** will refuse to synchronize a *Data Exchange* when it determines that either the original ODBC Data Source or the Advanced Field Settings are no longer consistent with the data structure on the handheld.

The proper way to change a data structure is as follows:

1. Mark the *Data Exchange* you want to modify as Inactive by unchecking the Active checkbox in the *Data Exchange* list on the PC.
2. Synchronize all handheld devices to upload any data residing on the handheld back to the PC.
3. On the handheld, the *Data Exchange* should now be removed. If not, delete the *Data Exchange* by choosing the *Delete Data Exchange* option from the "Seek in" screen of that *Data Exchange*.
4. Make any desired changes to the original data source and, if necessary, update the previously defined ODBC *System DSN* to reflect those changes.
5. In the ***ScanSeek*** conduit configuration wizard, either delete and recreate the *Data Exchange* for that data source or reconfigure the existing *Data Exchange* to produce the desired changes.
6. Mark the *Data Exchange* as Active and HotSync again.

Cross Lookup Loops

When configuring *Data Exchanges* as *lookup tables* it is important to understand that *Data Exchanges* must not reference each other in a loop. That is, if *Data Exchange* ***A*** has been configured to use *Data Exchange* ***B*** as a *lookup table*, you cannot subsequently configure *Data Exchange* ***B*** to reference *Data Exchange* ***A*** as a *lookup table*. This configuration causes problems when uploading data back to the PC and should be avoided.

Sync Regularly

Please keep in mind that the only way to synchronize data between the PC and the handheld is by performing a HotSync® function. We recommend that users synchronize data often, especially when collecting new data on the handheld, as this will provide a backup of collected data. Should a handheld be damaged or lose power, data that has not already been synced to the PC will be lost.

Re-installing the Handheld Software

If it becomes necessary to re-install the handheld software application, we advise the user to first delete the application from the handheld and then install it again from the PC

using the Palm® *Installation Tool*. Not deleting the application before reinstalling may result in unstable program behavior on the handheld.

Troubleshooting and Support

Up to date troubleshooting and Frequently Asked Questions information is available on-line at http://www.rioscan.com. Please visit the site regularly for information on patches, upgrades, and other important information. Contact your RioScan software reseller for information about obtaining an annual telephone support contract. We are always available to answer questions via email. Send your technical questions, feature requests, and other comments to support@rioscan.com.

Glossary Of Terms

conduit– *Software that extends the functionality of the HotSync® Manager application. Conduits are used to exchange data between the Palm OS® handheld and desktop computer.* ***ScanSeek*** *uses a conduit to transfer data between the handheld and PC.*

Data Exchange–*The virtual connection configured within the ScanSeek Data Exchange Wizard that refers to a specific ODBC DSN and establishes relationships associated with fields contained in the DSN and the ScanSeek application. A Data Exchange is the combination of data and configuration information.*

data source–*The source of information (data records), usually in the form of a database file or spreadsheet, referenced by an ODBC DSN.*

Data Source Name (DSN)–*The name given to a configured ODBC data source.*

field–*A single piece of data within a record. In a spreadsheet, each cell will be a separate field.*

HotSync® Manager–*A utility application provided by Palm, Inc. that enables data transfer between applications on the handheld device and a PC.*

license code–*A unique number generated by RioScan using a handheld serial number and* ***ScanSeek*** *product code.*

Open Database Connectivity (ODBC)–*A standardized database access method developed by Microsoft Corporation. The method provides a way for applications to access data from other applications through the insertion of a middle layer known as a an ODBC driver.*

ODBC System DSN–*An ODBC data source that has been configured for access by all users on a PC.*

ODBC User DSN–*An ODBC data source that has been configured for access by a specific user on a PC.*

PC–*Personal Computer.*

handheld serial number–*A unique serial number generated* ***ScanSeek*** *on a handheld device. The serial number is obtained from either system read-only-memory or from an electronic code embedded in a Springboard scan module.*

system tray–*An area of the task bar reserved for the presentation of application shortcuts and status icons. Introduced with Microsoft® Windows 95.*

unique identifier–*A data field in a database table that contains a unique value. This value allows you to sort data. It may also be referred to as a unique key, a sort key, or an index.*